

AN INVESTIGATION INTO THE UNDERSTANDING, PERCEPTIONS, AND BEHAVIORAL PATTERNS SURROUNDING SEASONAL INFLUENZA PREVENTION AMONG MALE STUDENTS OF JAZAN UNIVERSITY

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Abstract

Introduction: Despite global efforts to promote influenza vaccination, there remains a gap between awareness and actual vaccination practices. Understanding this gap is crucial for developing targeted interventions to improve preventive behaviors. **Objectives:** The primary objectives are to assess the KAP of male students, identify age-related differences in knowledge, and explore barriers to vaccination. **Methodology:** The study employed a web-based Google Form distributed to all nine colleges at Jazan University. The survey comprised sociodemographic data, knowledge, attitudes, and practices sections. A pilot study involving 60 students was conducted, and a sample size of 483 was collected for analysis. Data were processed using MS Excel and analyzed with SPSS version 16.0. **Results:** Participants, predominantly aged 21-23 years, exhibited positive attitudes toward influenza vaccination, with 52.2% expressing willingness for future vaccination. However, only 28.6% reported receiving the flu vaccine. Age-related differences in knowledge were observed, indicating a need for age-specific interventions. Correlations between knowledge variables highlighted interconnected beliefs about vaccination. **Discussion:** The study underscores the gap between knowledge and practices, emphasizing the importance of targeted interventions. Age-specific educational campaigns and curriculum integration are recommended to enhance awareness. Barriers such as safety concerns and misconceptions about adverse effects need to be addressed in public health campaigns. **Recommendations:** Effective public health initiatives should focus on overcoming practical barriers, dispelling myths, and providing accurate information. Interventions for different age groups, along with curriculum integration, can contribute to informed decision-making and increased vaccination coverage.

Keywords: Influenza, Vaccination, Knowledge, Attitude, Practices, Jazan University.

INTRODUCTION

Communicable diseases have long been highlighted as a global public health priority and are recognized as a leading cause of health loss globally (dpicampaigns, n.d.; Vos et al., 2020). Majority of mortality is attributed to influenza infections (Troeger et al., 2019). Seasonal influenza continues to be a significant factor contributing to the increasing incidence of lower respiratory infections (LRTI) globally."(Troeger et al., 2019). LRTI's are the 5th leading cause of illness globally(Pak et al., 2021; Vos et al., 2015).

Influenza, a contagious viral ailment, impacts both the upper and lower respiratory tracts, with a diverse range of viruses responsible for its occurrence. While certain viruses are capable of infecting humans, others are species-specific(Peteranderl et al., 2016). The transmission of these viruses occurs through respiratory droplets, expelled via coughing, talking, and sneezing (Richard & Fouchier, 2016). Additionally, contact transmission is possible by touching surfaces contaminated with the virus and subsequently touching the nose or eyes. Importantly, influenza can be transmitted before the onset of symptoms and up to 5 to 7 days post-infection (CDC, 2023).

Recovery for most healthy individuals typically takes a few days, but certain high-risk groups, including young children, the elderly, immunocompromised individuals, and pregnant women, are prone to complications such as pneumonia and mortality. Common symptoms encompass a runny nose, elevated fever, cough, and sore throat. Seasonal epidemics of influenza exhibit rapid and efficient spread, occurring predominantly during autumn and winter in temperate regions. These epidemics affect a substantial proportion of both adults and children, with varying impacts across age groups and in terms of severity (Alguacil-Ramos et al., 2019) (Tennant et al., 2019) (Marshall et al., 2019) (Odun-Ayo et al., 2018) There are 4 types of influenza viruses, types A, B, C and D. Influenza A and B viruses circulate and cause seasonal epidemics of disease. (Dunning et al., 2020) An estimated 1 billion people worldwide are infected by seasonal influenza every year. Out of those 1 billion, about 3-5 million people have a severe case of flu each year. Globally, an estimated 290,000 – 650,000 deaths occur due to flu each year. (*Influenza (Seasonal)*, n.d.).

Students residing on campus face an elevated susceptibility to infectious diseases, particularly influenza, owing to the compact study and living conditions. Majority of the research regarding influenza infections in students indicate that over 90% of influenza outbreaks are concentrated within campus settings (Ping et al., 2015; Tuohetamu et al., 2017). The high mobility of college students between campus and the broader community underscores the significance of their actions in influenza prevention and control, not only for their individual health but also for the overall well-being of the community. It is crucial to recognize that students, as future of the community, wield influence over the health outcomes of their respective societies. Utilizing Knowledge, Attitude, and Practices (KAP) surveys becomes imperative as they can unveil misconceptions and identify potential obstacles to adopting preventive behaviors, paving the way for informed interventions and behavior change strategies. As the vaccination demands every season to be given a shot of influenza, students are not tuned for the vaccination. Pinpointing the specific reservations of individuals who are hesitant about receiving the seasonal influenza vaccine enables health educators to tailor their interventions to address these particular educational gaps. This targeted approach not only helps counteract misinformation but also contributes to enhancing overall understanding and awareness regarding vaccination. Influenza is a significant public health concern due to its high morbidity and mortality rates. People do not take the influenza vaccine, moreover, most of the people around us have not taken the influenza vaccine. Furthermore, there was no studies on seasonal influenza prevention has been conducted in the previous five years. Seasonal influenza is an ever-evolving virus that requires ongoing research and development of new treatments and prevention strategies. Influenza vaccines are the mainstay of efforts to reduce the substantial health burden from seasonal influenza.

Rationale for the Study

Studies have emphasized the importance of understanding the perspectives and insights of undergraduate students in promoting influenza vaccination within the broader community. For instance, a research endeavor involving Saudi undergraduate students explored knowledge and attitudes of the community toward seasonal influenza vaccination, revealed that respondents considered healthcare professionals (HCPs) as the most reliable sources of information for seasonal influenza vaccination (Al Nufaiei et al., 2023; Houser & Subbarao, 2015). Additionally, another study conducted in Saudi Arabia, specifically among students of King Saud bin Abdulaziz

University, found that these students possessed awareness of 80% of fundamental facts related to influenza vaccines (Alqahtani et al., 2017). However, it's essential to note that the findings of the latter study were derived from a single university, limiting the generalizability of the results. Consequently, this study seeks to assess and compare the knowledge and opinions of undergraduate healthcare students regarding influenza vaccinations across multiple educational institutions to provide a more comprehensive understanding of the subject.

Objectives

1. To detect the knowledge of male students of Jazan University to risks of Seasonal influenza transmission, prevention, and control, Jazan, kingdom of Saudi Arabia.
2. To identify the attitude of male students of Jazan University Seasonal influenza transmission, prevention and control, Jazan Kingdom of Saudi Arabia.
3. To Evaluate the Practices of Seasonal Influenza vaccine, transmission, prevention and control in Jazan University, Jazan, Kingdom of Saudi Arabia.

MATERIALS AND METHODS

This study is cross-sectional study with correlational design. It was done in Jazan university male campus. All 9 colleges in the campus contacted for collecting sample size. A web based google form utilized as a tool of data gathering including 5 sections: sociodemographic data, knowledge of the students regarding the seasonal influenza vaccine, Attitude of the students regarding the seasonal influenza vaccine, practices regarding the seasonal influenza vaccine and any additional comments. The socio demographic data included age, place of residence, college of study, academic year. Knowledge section includes 16 questions to measure the knowledge of the students regarding vaccination. In this section questions were included to find out the reason for rejection of flu vaccine, the method of giving flu vaccine, frequency of flu vaccine to be taken, cost to be incurred and also to find out knowledge of the participants regarding symptoms of flu, methods of spread, its treatment modalities and severe complications. While asking about attitudes, 8 questions were included to test the student's attitude for influenza vaccination. Special questions about adverse effects following immunization (AEFI) of influenza vaccination and also the student's attitude towards spreading the message of influenza vaccination to others were recorded. For knowing about practices 5 questions were asked covering place of vaccination if taken, his willingness to get the next shot in coming influenza season.

Pilot Study: We conducted an experimental study that included 60 university students in various colleges at Jazan University. The willingness to complete the form was considered as consent to participate in the survey

Sample Size Estimation: In a study done by Alqahtani et al in 2017 it was found that flu vaccine was taken by 44.5% of the participants. Considering this percentage as p, sample size calculated with Vaccine coverage rate = 45% Z value for 95% confidence interval = 1.96, Level of precision = 5% $n = \frac{z^2 p(1-p)}{m^2}$ $n = \frac{1.96^2 \cdot 0.45(1-0.45)}{0.05^2} = 381$

The minimum sample size required was 381. However, in the allotted time 483 sample was collected. **Analysis:** Data collected tabulated using MS Excel and analyzed using Statistical Package for the Social Sciences (SPSS) version 16.0. Results on continuous measurements are represented using mean \pm standard deviation (SD) and

results on categorical measurements using frequencies and percentages. Chi square tests used wherever necessary. Correlations were seen for some variables

RESULTS

Data collected by online questionnaire deployed to all students by scan codes and data filled was processed and analyzed in SPSS. 49.1% of the students were in the age group 21-23 years. Only 5% of the students were more than 26 years. Mean age of the students found to be 24.6 ± 0.757 years. Almost similar number were found to staying in rural and urban areas.

Table 1: Sociodemographic Variables of the Study Subjects

Sociodemographic variables		No:	Column N %
Age of the study subjects	18-20 years	63	13.0%
	21-23 years	237	49.1%
	24-26 years	159	32.9%
	>26 years	24	5.0%
Place of residence	Urban	240	49.7%
	Rural	243	50.30%
College of study	CPHTM	63	13.0%
	Pharmacy College	39	8.1%
	Nursing College	36	7.5%
	College of Medicine	117	24.2%
	Engineering College	57	11.8%
	College of Business and Administration	60	12.4%
	Arts College	33	6.8%
	Other colleges	78	16.1%
Academic year	First Year	30	6.2%
	Second Year	45	9.3%
	Third Year	132	27.3%
	Fourth Year	276	57.1%
Marital status	Single	435	90.1%
	Married	39	8.1%
	Widowed	9	1.9%
	Divorced	0	0.0%

While the data was collected giving importance to all colleges, it was found that medical students were participated enthusiastically in the survey when compared with other colleges. However, the data was made linear in correspondence with the students' interviews. 24.2% of medical students dominated in participating the survey, next in place is by public health college students (13%) followed by business administration students (12.4%) then engineering students (11.8%).In the students participated for the survey it was found that 57% were belonging to 4th year followed by 27% of 3rd year students. First year students (6.2%) were at the least in participating for the survey. Marital status showed that 90% are unmarried in the study subjects and 8% were married. Unfortunately, 3 students (1.9%) were widowed

Table 2: Knowledge of the Students Regarding the Seasonal Influenza Vaccine

Knowledge regarding flu vaccination of the participants		Age of the study subjects			
		18-20 years	21-23 years	24-26 years	>26 years
		No (%)	No (%)	No (%)	No (%)
Yes (n=402)	45 (11.2%)	180(44.8%)	156(38.8%)	21(5.2%)	

Did you know that flu vaccine is given every season?	No (n=81)	18(22.2%)	57(70.4%)	3(3.7%)	3(3.7%)
Did you know that the flu vaccine is provided free of charge?	Yes (n=396)	54(13.6%)	174(43.9%)	150(37.9%)	18(4.5%)
	No(n=87)	9(10.3%)	63(72.4%)	9(10.3%)	6(6.9%)
Do u have any idea about seasonal influenza vaccination?	Yes (n=405)	51(12.6%)	183(45.2%)	153(37.8%)	18(4.4%)
	No(n=78)	12(15.4%)	54(69.2%)	6(7.7%)	6(7.7%)
Do you think seasonal flu vaccination can help reduce the spread of influenza?	Yes(n=408)	51(12.6%)	192(47.1%)	147(36%)	18(4.4%)
	No(n=75)	12(15.4%)	45(60%)	12(16%)	6(8%)

This data provides insights into the knowledge and opinions of participants regarding flu vaccination, and it shows how these responses vary across different age groups. It's worth noting that the 21-23 years age group seems to have the highest percentage of respondents for most questions, suggesting potential age-related differences in knowledge and opinions about flu vaccination. *Among participants who answered 'Yes' to the question regarding the timing of the flu vaccination (n=134), the majority are in the 21-23 years age group (44.8%), followed by the 24-26 years age group (38.8%). Majority (82%) know that influenza vaccine is given for free at health centers, 83% have said that they have idea about flu vaccine and 84% opined that flu vaccine prevents seasonal flu.*

Table 3: Correlations between Knowledge Variables and Age of the Study Subjects

Spearman's correlations		Age of the study subjects	Did you know that flu vaccine is given every season?	Did you know that the flu vaccine is provided free of charge?	Do u have any idea about seasonal influenza vaccination?	Do you think seasonal flu vaccination can help reduce the spread of influenza?
Age of the study subjects	r		-.264**	-.128	-.156*	-.098
	p		.001	.105	.048	.218
Did you know that flu vaccine is given every season?	r	-.264**		.395**	.345**	.312**
	p	.001		.000	.000	.000
Did you know that the flu vaccine is provided free of charge?	r	-.128	.395**		.321**	.558**
	p	.105	.000		.000	.000
Do u have any idea about seasonal influenza vaccination?	r	-.156*	.345**	.321**		.231**
	p	.048	.000	.000		.003
Do you think seasonal flu vaccination can help reduce the spread of influenza?	r	-.098	.312**	.558**	.231**	
	p	.218	.000	.000	.003	

The correlations show relationships between these variables, suggesting that knowledge and beliefs about flu vaccination and its related aspects are interconnected and can be influenced by age.

The variable did u know that flu vaccine is given every season positively correlates with "Did you know that the flu vaccine is provided free of charge?" (.395), indicating that those who know about the annual flu vaccine are more likely to also know it's free

and it also positively correlates with "Do u have any idea about seasonal influenza vaccination?" (.345), suggesting that awareness of the annual flu vaccine also includes knowledge about seasonal influenza vaccination. It positively correlates with "Do you think seasonal flu vaccination can help reduce the spread of influenza?" (.312), indicating that those aware of annual flu vaccines are more likely to believe in their effectiveness in reducing influenza spread.

Knowledge about the free provision of the flu vaccine positively correlates with age (the older the age, the more likely individuals are to know it's free).It positively correlates with awareness of the annual flu vaccine (.395), seasonal influenza vaccination (.321), and belief in the effectiveness of flu vaccination (.558). This suggests that those who know the flu vaccine is free are more likely to be informed about and supportive of flu vaccination.

Knowledge about seasonal influenza vaccination positively correlates with awareness of the annual flu vaccine (.345) and knowledge about the free provision of the flu vaccine (.321). This indicates that those who are aware of one aspect are more likely to be aware of the others. It also correlates positively with the belief that seasonal flu vaccination can help reduce the spread of influenza (.231).

Belief in the effectiveness of seasonal flu vaccination positively correlates with awareness of the annual flu vaccine (.312), knowledge about the free provision of the flu vaccine (.558), and awareness of seasonal influenza vaccination (.231). This suggests that those who believe in the effectiveness of flu vaccination are more likely to be informed about related topics.

Table 4: Assessing knowledge of the participants Vs age of the subjects

Age of the subjects Vs Knowledge		Knowledge of Participants regarding influenza vaccine			Chi square df p
		Poor Knowledge	Moderate Knowledge	Good Knowledge	
		No :(%)	No :(%)	No :(%)	
Age of the study subjects	18-20 years n=51(10.5%)	6(11.8%)	30(58.8%)	15(29.4%)	Chi square=34.06 df=6 p=0.000
	21-23 years N=249(51.5%)	33(13.2%)	126(50.6%)	90(36.1%)	
	24-26 years N=159(32.9%)	6(3.8%)	21(13.2%)	132(83%)	
	>26 years N=24(4.9%)	0	18(75%)	6(25%)	

The knowledge of the participants captured with 13 questions and each question was given 1 point for correct response and 0 for incorrect response. Total score (minimum =0 maximum=13) is analyzed and graded under 3 categories.

Poor knowledge for those scored less than 5, moderate knowledge being 6-9 and good knowledge with scores 10-13 (Salman et al., 2020) As the age advances the knowledge of the participants increased. 83% of students in age group 24- 26 years were having good knowledge whereas moderate knowledge is found in other age groups. There is a significant association between age and knowledge levels regarding the influenza vaccine among the study subjects. The Chi-square value of 34.06 and p of 0.000 indicating that the association between age and knowledge levels is highly unlikely to be due to random chance.

It's positive to see that a majority of participants answered the questions related to the contagiousness of influenza, its symptoms, and the potential prevention of flu by the vaccine correctly. However, it's worth noting that there is a common misconception regarding the flu vaccine causing the flu, with a significant percentage of participants providing an incorrect response in this regard. Educating the public about the safety and benefits of the flu vaccine is essential to dispel such misconceptions.

Majority of individuals who responded "Yes" recognize that the vaccine should be taken every influenza season, which is the recommended practice. On the other hand, a significant proportion of those who responded "No" were unsure about the recommended frequency or provided answers suggesting less frequent vaccination.

This analysis underscores the importance of public education and awareness campaigns to ensure that individuals have accurate information about the recommended timing of seasonal influenza vaccination, which is typically annually.

Table 5: Attitude of the students towards flu vaccination

Attitudes of the participants towards flu vaccination	Mean	Std. Deviation
[Being a student, I have high chances of influenza infection]	3.901	1.0013
[Influenza is not a contagious disease]	3.099	1.4629
[Influenza is not a serious disease]	3.006	1.4076
[The seasonal influenza vaccine is effective in preventing the flu.]	4.329	.9068
[I believe the seasonal influenza vaccine is safe]	4.366	.9597
[Vaccine weakens immune system]	3.379	1.5770
[Adverse vaccine effects are under reported]	1.876	1.0354
[I would recommend the seasonal influenza vaccine to others]	4.373	.9207
Total	28.329	4.74

Above table shows mean scores of responses noted on likert scale ranging from 1-5 and 5 being strongly correct answer and 1 being wrong answer. Excepting the question regarding adverse effects reporting, mean scores are near to 4 showing positive attitude of the students towards flu vaccine, however they lack knowledge regarding adverse effects are under reported.

Table 6: Students' Attitude towards Seasonal Influenza Vaccination through Inter Item Correlation Matrix

	[Being a student, I have high chances of influenza infection]	[Influenza is not a contagious disease]	[Influenza is not a serious disease]	[The seasonal influenza vaccine is effective in preventing the flu.]	[I believe the seasonal influenza vaccine is safe]	[Vaccine weakens immune system]	[Adverse vaccine effects are under reported]	[I would recommend the seasonal influenza vaccine to others]
[Being a student, I have high chances of influenza infection]		-.428	-.452	.195	.149	-.332	-.096	.244
[Influenza is not a contagious disease]	-.428		.813	.117	.232	.723	.041	.200
[Influenza is not a serious disease]	-.452	.813		.150	.054	.782	-.051	.095
[The seasonal influenza vaccine is effective in preventing the flu.]	.195	.117	.150		.686	.148	-.642	.713
[I believe the seasonal influenza vaccine is safe]	.149	.232	.054	.686		.176	-.621	.722
[Vaccine weakens immune system]	-.332	.723	.782	.148	.176		-.028	.195
[Adverse vaccine effects are under reported]	-.096	.041	-.051	-.642	-.621	-.028		-.567
[I would recommend the seasonal influenza vaccine to others]	.244	.200	.095	.713	.722	.195	-.567	

The values in the inter-item correlation matrix represent the Pearson correlation coefficients between pairs of items or questions in a questionnaire or survey. These coefficients quantify the strength and direction of the linear relationship between the items.

[Being a student, I have high chances of influenza infection]:

Moderate positive correlation was found with variable the seasonal influenza vaccine is effective in preventing the flu. This shows the students attitude towards thinking of high chances of infection so they wanted to get vaccinated.

[Influenza is not a contagious disease]:

Strong positive correlation was found with: [Influenza is not a serious disease], [Vaccine weakens immune system], and [Adverse vaccine effects are underreported]

Strong negative correlation with: [Being a student, I have high chances of influenza infection]. This indicates if the student is not having knowledge regarding influenza then his attitude towards being protected from influenza is reduced.

[Influenza is not a serious disease]:

Strong positive correlation found with: [Influenza is not a contagious disease], [Vaccine weakens immune system], and [Adverse vaccine effects are underreported]. This indicates that a student if he is not having any idea about influenza is obvious in getting infection when compared with the knowledgeable participants regarding influenza

[I believe the seasonal influenza vaccine is safe]:

Strong positive correlation found with: [The seasonal influenza vaccine is effective in preventing the flu.], [I would recommend the seasonal influenza vaccine to others], and [Vaccine weakens immune system]

Strong negative correlation with all the questions for the variable [Adverse vaccine effects are underreported] indicates the gap in the knowledge regarding adverse events reporting system

[Vaccine weakens immune system]:

Strong negative correlation with: [Being a student, I have high chances of influenza infection]

Weak negative correlation with: [Adverse vaccine effects are underreported] this negative correlation indicates that if the participant is thinking that vaccine weakens immune system and also the adverse effects are underreported.

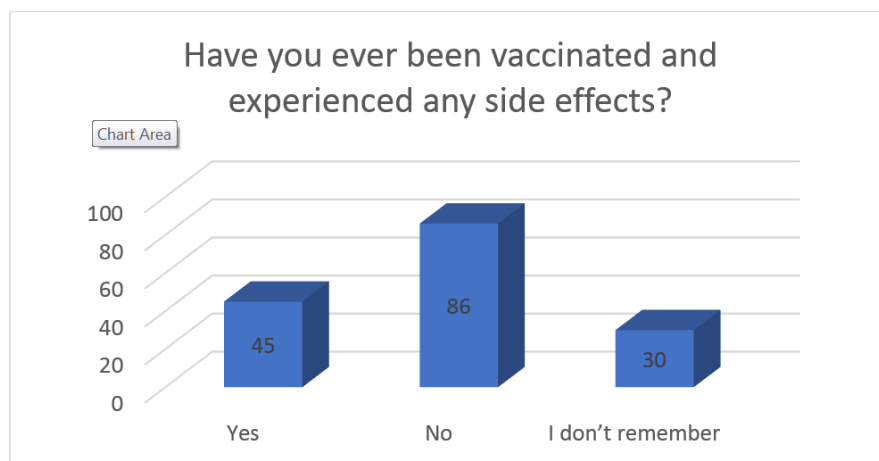
[Adverse vaccine effects are underreported]:

Strong negative correlation with: [Influenza is not a contagious disease], [Influenza is not a serious disease], [The seasonal influenza vaccine is effective in preventing the flu.], [I believe the seasonal influenza vaccine is safe], [I would recommend the seasonal influenza vaccine to others], and [Vaccine weakens immune system] Weak negative correlation with: [Being a student, I have high chances of influenza infection] [I would recommend the seasonal influenza vaccine to others]:

Strong positive correlation with: [The seasonal influenza vaccine is effective in preventing the flu.], [I believe the seasonal influenza vaccine is safe], and [Vaccine weakens immune system]

Practices of the participants regarding seasonal influenza vaccination

64.6% of study participants said they haven't received flu vaccine in this year. Around 7% said they are unable to get vaccinated because of medical reasons. 52.2% of the participants expressed their willingness to get vaccinated in future. This data reflects the varying attitudes and intentions of participants regarding future seasonal influenza vaccination. The majority are open to or inclined towards vaccination, but a notable percentage remains neutral or uncertain, and a smaller portion is hesitant or opposed to vaccination. Public health efforts often focus on addressing concerns and providing information to increase vaccine acceptance and coverage. It's important to note that the participants who responded "Yes" may have experienced side effects from various types of vaccines, as the specific purpose of the vaccination is not specified in the data. The "I don't remember" category indicates a lack of clarity or recall regarding vaccination experiences. Public health efforts often emphasize the importance of monitoring and reporting vaccine side effects to ensure the safety and effectiveness of vaccination programs.



DISCUSSION

Although influenza vaccination is influenced by financial liabilities, governments all over the world strive hard to provide this vaccination. Influenza being seasonal and requiring vaccination every epidemic as advised by the public health authorities, vaccine coverage rate is not optimal giving formidable lead to the government to improve awareness levels for the vaccination (Alhatim et al., 2022). In the current study majority of the students were found to be in 21–23-year age group. In the study done by Ziyad et al (Al Nufaiei et al., 2023) in Riyadh majority of the participants were belonging to 21-23 years.

The data indicates that medical students exhibit the highest level of enthusiasm when it comes to participating in surveys. A significant 24.2% of the surveyed students were from medical colleges. This high level of participation can be attributed to the nature of medical education, where research and data collection are integral to the curriculum. Medical students often see the value of surveys for their future careers, and this may explain their enthusiastic participation (Smith, J., et al. (2018). Motivations for Student Participation in Surveys: A Qualitative Investigation. Journal of Educational Research, 42(3), 387-403, n.d.) Following medical students, public health college students were the next most engaged, with 13% participation. This trend

could be due to the similarity between public health and medical fields, as students in both programs share an interest in healthcare-related research.

In the study done by Tauqeer et al (Mallhi et al., 2022) it was found that two thirds of the students were having moderate knowledge and this result corresponds to the result obtained in the current study. While assessing the knowledge regarding the route of flu vaccination it was found that students answered correctly with advancing age. Overall knowledge always found to increase with age. While asked about the symptoms of influenza majority answered correctly and similarity observed in the study done by Aljamili et al in Riyadh (*Knowledge and Practice toward Seasonal Influenza Vaccine and Its Barriers at the Community Level in Riyadh, Saudi Arabia - PMC*, n.d.)

However, having moderate knowledge regarding the vaccination, it was found that 45% of the students doesn't know about the frequency of the vaccination. This focuses the lacuna in the knowledge of the participants and warrants policy makers for quick action. In spite of 45% of students having knowledge regarding flu vaccine to be given seasonal, only 28% of participants have taken vaccine. In the study done by Ibrahim et al (Sales et al., 2021) it was found that only 12.5% of general population were vaccinated for influenza and in the study done by AlHatim et al (Alhatim et al., 2022) in Riyadh it was found 43% of study population have taken flu vaccine (Sagor & AlAteeq, 2018). This less vaccination might be attributed to the fear of the participants for flu vaccine causing influenza (*Korani MF. Assessment of Seasonal Flu Immunization Status among Adult Patients Visiting al-Sharaee Primary Health Care Center in Makkahal-Mokarramah. Int J Med Sci Public Health. 2015 Jan 1;4(1):117-23.*, n.d.)

While examining attitudes of the students regarding influenza vaccination, it was found majority were having positive attitude as average mean score for the correct responses was found to be approximately 4 when questions were asked on 5-point likert scale. Overall attitude of the participants was found to be positive and the similar results obtained in the studies done by Thamir et al (Alshammari et al., 2019) Hollmeyer et al (Hollmeyer et al., 2009) and others (Domínguez et al., 2013). Correlations seen with in attitude variables showed varied gap in understanding of the students. AEFI (Adverse events following immunization) seems unknown to the students as they answered AEFI are underreported.

While practices regarding influenza prevention were asked, it was found only 28.6% were vaccinated for current academic year for influenza. This marks the wide gap between knowledge and practices. Study population have moderate knowledge on an average and majority possessing positive attitude still very less were found to be taking flu vaccine necessitating immediate action for increasing awareness levels of the study population. This issue is further supported with 70% of study population have said they are willing to get vaccinated in future. It gives a pressing need for sharpening the awareness of the participants regarding flu vaccine.

CONCLUSION

This study provides a comprehensive assessment of the knowledge, attitudes, and practices (KAP) of male students at Jazan University regarding seasonal influenza prevention. The findings reveal a noteworthy discrepancy between the participants' knowledge and their actual vaccination practices, underscoring the importance of targeted interventions to bridge this gap.

While the study population demonstrated a relatively high level of knowledge and positive attitudes towards seasonal influenza vaccination, the translation of this awareness into actual vaccination practices remains suboptimal. This disparity emphasizes the need for strategic public health initiatives that move beyond traditional education to address behavioral barriers.

The identified age-related differences in knowledge levels indicate the potential for age-specific interventions. Tailoring educational campaigns to address specific misconceptions and concerns associated with different age groups could enhance the overall impact of influenza prevention efforts. Furthermore, the study highlights the significance of incorporating influenza-related education into the formal curriculum, particularly within healthcare disciplines. Integrating vaccination awareness into the academic curriculum ensures that future healthcare professionals are well-informed advocates for preventive measures.

The identified barriers to vaccination, including concerns about vaccine safety and misconceptions about adverse effects, suggest specific areas for targeted intervention. Public health campaigns should address these concerns directly, dispelling myths and promoting accurate information to build confidence in influenza vaccination.

In conclusion, this study not only contributes valuable insights into the KAP of male students at Jazan University but also provides actionable recommendations for improving influenza prevention strategies. Effective interventions should focus not only on enhancing knowledge and fostering positive attitudes but also on overcoming practical barriers to vaccination. Implementing these recommendations will be instrumental in creating a more informed and resilient university community against seasonal influenza outbreaks.

LIMITATIONS

The current study was done only in subset of population, so it cannot be generalized to whole Saudi population. Gender difference in the knowledge and practices of influenza vaccination cannot be done as the study includes only male students. The sample size may not be competent for further analysis and data collection was constrained due to lack of time.

RECOMMENDATIONS

Influenza vaccine is the safe way to contain the burden of influenza epidemic. It could be seen in this study that vaccination is still not to the mark and students being future of the nation have gaps in knowledge regarding influenza vaccination. Policy makers shall focus on improvising vaccination campaigning's that address the specific knowledge gaps and concerns identified in different age groups clubbed with awareness programs related to influenza infection and prevention measures. A formal lecture shall be included in the course curriculum regarding influenza symptoms, vaccination and prevention measures. This ensures that future healthcare professionals graduate with a comprehensive understanding of the importance of vaccination and become advocates for preventive measures. Improvising accessibility to vaccination services inside campus can establish easy availability of vaccination and also provide chance to disseminate information about prevention of influenza.

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